

CLAIMS

At least the following is claimed:

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1. A method for an enterprise system to evaluate and rank exact and probabilistic search rules for searching a computer database of records according to the efficiency of each search rule, comprising the steps of:
 - implementing a plurality of search rules that include one or more data elements, wherein the combination of data elements in each rule is configured to identify a target record;
 - arranging the search rules in a rank order of execution;
 - executing the search rules according to the rank order to retrieve the target record;
 - retrieving a plurality of records identified by the search rules as possible matches to the target record;
 - collecting a plurality of statistical values related to the performance of each search rule executed in attempt to locate the target record; and
 - adjusting the rank order of the search rules upon analysis of the collected statistics.
 2. The method of claim 1, wherein one of the collected statistical values corresponds to number of instances a search rule is executed to search for the target record.

3. The method of claim 1, wherein one of the collected statistical values corresponds to number of instances a search rule retrieves one or more records as possible matches to the target record.

4. The method of claim 1, wherein one of the collected statistical values corresponds to an elapsed time value equivalent to the amount of time spent executing a search rule to retrieve a record.

5. The method of claim 1, wherein one of the collected statistical values corresponds to the number of instances a search rule retrieves a record previously retrieved by a previously executed search rule.

6. The method of claim 1, wherein one of the collected statistical values corresponds to the number of instances a search rule retrieves a record that was not retrieved by a previously executed search rule.

7. The method of claim 1, wherein one of the collected statistical values corresponds to the number of instances a search rule retrieves a plurality of records, wherein the plurality of records are subsequently determined to correspond to the target record.

8. The method of claim 1, wherein one of the collected statistical values corresponds to the number of records of the plurality of retrieved records determined not to be the target record.

5 9. The method of claim 1, wherein the enterprise system determines the efficiency for each search rule according to the collected statistics for the search rule, and wherein the rank order of the search rules are arranged in descending order by efficiency.

10 10. The method of claim 1, wherein a user of the enterprise system determines the efficiency based upon the collected statistics and arranges the rank order of the search rules according to the determined efficiency.

15 11. The method of claim 1, wherein the enterprise system and search rules are executed in a computer.

12. An enterprise system to evaluate and rank exact and probabilistic search rules for searching a computer database of records according to the efficiency of each search rule, comprising:

20 logic configured to implement a plurality of search rules that include one or more data elements, wherein the combination of data elements in each rule is configured to identify a target record;

logic configured to arrange the search rules in a rank order of execution;

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logic configured to execute the search rules according to the rank order to retrieve the target record;

logic configured to retrieve a plurality of records identified by the search rules as possible matches to the target record;

5 logic configured to collect a plurality of statistical values related to the performance of each search rule executed in attempt to locate the target record;

logic configured to adjust the rank order of the search rules upon analysis of the collected statistics.

10 13. The system of claim 12, wherein one of the collected statistical values corresponds to number of instances a search rule is executed to search for the target record.

15 14. The system of claim 12, wherein one of the collected statistical values corresponds to number of instances a search rule retrieves one or more records as possible matches to the target record.

20 15. The system of claim 12, wherein one of the collected statistical values corresponds to an elapsed time value equivalent to the amount of time spent executing a search rule to retrieve a record.

16. The system of claim 12, wherein one of the collected statistical values corresponds to the number of instances a search rule retrieves a record previously retrieved by a previously executed search rule.

5 17. The system of claim 12, wherein one of the collected statistical values corresponds to the number of instances a search rule retrieves a record that was not retrieved by a previously executed search rule.

10 18. The system of claim 12, wherein one of the collected statistical values corresponds to the number of instances a search rule retrieves a plurality of records, wherein the plurality of records are subsequently determined to correspond to the target record.

15 19. The system of claim 12, wherein one of the collected statistical values corresponds to the number of records of the plurality of retrieved records determined not to be the target record.

20 20. The system of claim 12, wherein the enterprise system determines the efficiency for each search rule according to the collected statistics for the search rule, and wherein the rank order of the search rules are arranged in descending order by efficiency.

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21. The system of claim 12, wherein the a user of the enterprise system determines the efficiency based upon the collected statistics and arranges the rank order of the search rules according to the determined efficiency.

5 22. The system of claim 12, wherein the enterprise system and search rules are executed in a computer.

23. A method of uniquely identifying an object record in a database of object records according to a plurality of ranked exact and probabilistic search rules, comprising
10 the steps of:

obtaining application identification information and attributes of a target object;

executing one or more exact-match search rules to search the database of object records for the target object;

15 executing one or more user defined probabilistic search rules to search the database of object records for the target object if the exact-match search rules retrieve no object record identical to the obtained application identification information and attributes, wherein a list of probable matches to the target object are retrieved and ranked by degree of match probability;
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receiving user input of selection of one retrieved object record determined to be the target object record;

updating the database of object records in real time for the selected target object with new attributes and information associated with the target object;

determining the efficiency of the exact-match and probabilistic search rules according to a plurality of collected statistics for each search rule; and

adjusting a sequence of execution of the exact-match and probabilistic search rules in descending order by efficiency.

24. The method of claim 23, further comprising the step of:
creating a new object record if the exact-match or probabilistic search rules fail to return a record determined by the user to be the target object.

25. The method of claim 23, wherein the exact-match search rules are executed according to a pre-configured rank order.

26. The method of claim 23, wherein the probabilistic search rules are executed according to a pre-configured rank order.

27. The method of claim 23, wherein the target object record is identified by a computer.

28. A system for uniquely identifying an object record in a database of object records according to a plurality of exact and probabilistic search rules, comprising:

logic configured to receive application identification information and attributes corresponding to a target object contained in the database of object records;

logic configured to execute one or more exact-match search rules to search the database of object records for the target object;

logic configured to execute one or more user defined probabilistic search rules to search the database of object records for the target object if the exact-match search rules retrieve no object record identical to the obtained application identification information and attributes, wherein a list of probable matches to the target object are retrieved and ranked by degree of match probability;

logic configured to receive user input of selection of one retrieved object record determined to be the target object record;

logic configured to update the database of object records in real time for the selected target object with new attributes and information associated with the target object;

logic configured to determine the efficiency of the exact-match and probabilistic search rules according to a plurality of collected statistics for each search rule; and

logic configured to adjust a sequence of execution of the exact-match and probabilistic search rules in descending order by efficiency.

29. The system of claim 28, further comprising the step of:

logic configured to create a new object record if the exact-match or probabilistic search rules fail to return a record determined by the user to be the target object.

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30. The system of claim 28, wherein the exact-match search rules are executed according to a pre-configured rank order.

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31. The system of claim 28, wherein the probabilistic search rules are executed according to a pre-configured rank order.

32. The system of claim 28, further comprising:

a computer to execute logic to uniquely identify a target object in a database of object records.

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33. A rules analyzer method to evaluate and rank search rules for searching a computer database of records, comprising the steps of:

collecting a plurality of statistical performance values regarding each search

20 rule;

assigning a priority value for each search rule according to the collected statistical performance values; and

ranking the search rules according to the assigned priority.

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34. The method of claim 33, wherein the search rules include exact match search rules.

5 35. The method of claim 34, further comprising the steps of:
determining the efficiency of each exact match search rule according to the collected statistics, wherein the efficiency is the percentage of instances that an exact match search rule returns a possible match upon execution.

10 36. The method of claim 33, wherein the search rules include probabilistic match search rules.

37. The method of claim 36, further comprising the steps of:
determining the precision of each probabilistic match search rule according to
15 the collected statistics, wherein the efficiency is the percentage of possible matches retrieved by the probabilistic match search rule that are resolved as real matches.

38. A rules analyzer system to evaluate and rank search rules for searching a computer database of records, comprising:

20 means for collecting a plurality of statistical performance values regarding each search rule;

means for assigning a priority value for each search rule according to the collected statistical performance values; and

means for ranking the search rules according to the assigned priority.

39. The system of claim 38, further comprising:

means for determining the efficiency of a plurality of exact match search rules

5 according to the collected statistics, wherein the efficiency is the percentage of
instances that an exact match search rule returns a possible match upon execution; and

means for determining the precision of a plurality of probabilistic match search
rules according to the collected statistics, wherein the efficiency is the percentage of
possible matches retrieved by the probabilistic match search rule that are resolved as

10 real matches.

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